

REMARKS

Reconsideration based on the previous amendments and following remarks is respectfully requested.

Claims 1, 3-10, 12, 13 and 15 are pending. By this Amendment, claims 1, 12 and 13 are amended, and claim 11 is cancelled.

Applicants appreciate the Examiner's indication that claims 4 and 12 contain allowable subject matter.

Applicants appreciate the courtesies extended to Applicants' representative during the September 8, 2011 interview. The substance of the discussion is incorporated into the amendments and remarks herein and constitutes Applicants' record of the interview.

The Office Action rejects claims 1, 3, 5, 10, 11, and 13 under 35 U.S.C. §102(b) over JP 11-23179 to Kusuhara; rejects claims 8 and 9 under 35 U.S.C. §103(a) over Kusuhara in view of JP 2002-213764 to Futagami; rejects claims 8 and 9 under 35 U.S.C. §103(a) over Futagami in view of JP 10-038302 to Itagaki; rejects claim 6 under 35 U.S.C. §103(a) over Kusuhara in view of JP 2003-028594 to Kitazawa et al.; and rejects claim 7 under 35 U.S.C. §103(a) over Kusuhara in view of JP 11-281280 to Mukoda et al. These rejections are respectfully traversed.

Applicants' independent claim 1 is directed to an indoor unit of an air conditioner. A plurality of fin-tube type heat exchangers are arranged to surround a fan and an air pressure loss of an adjacent heat exchanger disposed adjacent to an air inlet, is larger than the air pressure loss of a remote heat exchanger that is disposed further from the air inlet than the adjacent heat exchanger. The air inlet is provided on an upper side of the indoor unit. A front panel and a rear panel are

formed in the indoor unit and extend between the air inlet and an air outlet and air does not pass through the front panel and the rear panel.

As disclosed in Applicants' specification in a non-limiting example, air does not pass through the front panel 8 and the rear panel. Therefore, in a case in which louvered portions are provided in the lower front heat exchanger 4a, as in the upper front heat exchanger 4b and the rear heat exchanger 4c, the wind velocity near the lower front heat exchanger 4a is much lower than near the other heat exchangers 4b and 4c. When the lower front heat exchanger 4a does not have louvered portions, the air pressure loss of the lower front heat exchanger 4a disposed remotely from the air inlet 7, is smaller than the air pressure losses of the upper front heat exchanger 4b and the lower rear heat exchanger 4c disposed near the air inlet 7. Because the air pressure loss of the lower front heat exchanger 4a is smaller than those of the upper front heat exchanger 4b and the rear heat exchanger 4c, the wind velocity on the lower side of the heat exchanger increases and the intensity of the turbulence generated around the vortex in the circulating fan increases. Thus, the static pressure in the vortex decreases and the efficiency of the circulating fan increases.

The Examiner alleges that Kusuvara discloses that the air pressure loss of an adjacent heat exchanger disposed adjacent the upper inlet is larger than the air pressure loss over remote heat exchanger. In the response to arguments the Examiner states that he points out in the rejection that the remote heat exchanger 112 has no louvers to lower pressure loss in comparison to the louvered upper heat exchangers. It appears that the Examiner is relying on Applicants' arrangement to support this argument. However, Kusuvara does not have the same arrangement,

for example, as Applicants' Fig. 1 where air does not pass through the front panel 8 and the rear panel. In Kusuhara, as shown in drawing 12, suction openings 105 are provided at the top and the front panel. Drawing 12 of Kusuhara will have different pressure characteristics than Fig. 1 of Applicants' specification. Thus, the Examiner has not provided sufficient support for his allegation that in Kusuhara the remote heat exchanger does not have louvers and therefore pressure loss will be lower in comparison to the louvered upper heat exchangers.

Applicants' independent claim 8 is directed to an indoor unit of an air conditioner. A plurality of fin-tube type heat exchangers include an adjacent heat exchanger disposed adjacent to an air inlet and a remote heat exchanger disposed further from the air inlet than the adjacent heat exchanger. An auxiliary heat exchanger is provided on an air upstream side of the remote heat exchanger. Each of the plate fins in the remote heat exchanger has louvered portions but each of the plate fins in the auxiliary heat exchanger does not have a louvered portion. A space to pass air through is provided between the bottom portion of a front panel opposite the auxiliary heat exchanger and a condensed water receiver disposed corresponding to the remote and auxiliary heat exchangers, and a front panel formed in the indoor unit extends between the air inlet and the space and a rear panel formed in the indoor unit extends between the air inlet and the air outlet and air does not pass through the front panel and the rear panel. Support for the amendment to claim 8 can be found in Figs. 12 and 13 of Applicants' as-filed specification.

As shown in a non-limiting example in Figs. 12 and 13, a space 20 through which air passes is provided between front panel 8 and condensed-water receiver 19. With the addition of the auxiliary heat exchanger 4F, the pressure loss in the

lower front side of the indoor unit is increased. But wind velocity on that side increases because air flows in not only from upper grill 7 but also from the space 20 between the front panel 8 and the condensed-water receiver 19.

The Kusuhsara, Futagami, and Itagaki references do not disclose each of the plate fins in the remote heat exchanger has louvered portions but each of the plate fins in the auxiliary heat exchanger does not have a louvered portion, a space to pass air through is provided between the bottom portion of a front panel opposite the auxiliary heat exchanger and a condensed water receiver disposed corresponding to the remote and auxiliary heat exchangers, and a front panel being formed in the indoor unit extends between the air inlet and the space and a rear panel formed in the indoor unit extends between the air inlet and the air outlet and air does not pass through the front panel and the rear panel, as in Applicants' amended independent claim 8. Thus, Applicants' amended independent claim 8 is distinguishable over the cited references.

The dependent claims are allowable for at least the reasons discussed above as well as for the individual features they recite.

Early and favorable action with respect to this application is respectfully requested.

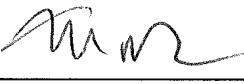
Should any questions arise in connection with this application or should the Examiner believe that a telephone conference with the undersigned would be helpful in resolving any remaining issues pertaining to this application, the undersigned respectfully requests that he be contacted at the number indicated below.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

Date: October 6, 2011

By:


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